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*To enrich lives through effective and caring service.*

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To: Each Supervisor  
From: Dave Lambertson  
Director  
Subject: **ANNUAL CLEAN FUELS REPORT**

The Board of Supervisor's "Clean Fuels" policy was adopted on January 10, 1995. The policy requires that by March 1 of each year, departments report on the composition of their fleet and their progress toward acquiring clean fuel vehicles.

Attachment 1 is the 2008 report, which includes data on all of the County departments and vehicles for which ISD provides automotive services. County Departments maintaining their own vehicles (Sheriff, Public Works, and Fire Department) will report separately.

The ISD-maintained motor vehicle fleet includes 3,859 powered vehicles. Currently, 313, or 8.1% of these vehicles are alternative fuel vehicles. The number of passenger cars in our fleet totals 1,208 and 265 (22%) of these are alternate fuel.

The attached report shows that County departments purchase a variety of alternative fuel types including hybrid, electric, natural gas, bi-fuel, flex-fuel and propane. Also reflected is information captured to date on certified low emission vehicles and ultra-low emission vehicles as defined by the California Air Resources Board.

### Hybrid Vehicles

ISD continues collaboration efforts to help County departments learn about and acquire hybrid sedans in support of the November 2005 Board of Supervisors direction for departments to acquire hybrid sedans for routine, non-emergency County business, whenever practical and economically feasible, beginning no later than July 1, 2006. The following actions were taken during this report period:

- ISD continued to utilize and promote our agreement with Toyota to fulfill the County's requirement for hybrid vehicles with improved delivery timeframe. As a result, County departments purchased 79 additional hybrid sedans in calendar 2007, bringing the total to 199 hybrid sedans purchased. In conjunction with the Chief Executive Office, ISD arranged for Toyota to bring the Mobile Hybrid Experience Event to County employees at the October 2007 Rideshare Fair. Hundreds of County employees visited Toyota's Highway to the Future trailer for



the Mobile Hybrid Experience. On board the trailer were several interactive and hands-on exhibits which help participants increase their awareness and learn about hybrid technologies, alternative fuels, and the benefits of hybrids.

- The Vehicle Purchasing Services Program was developed to provide employee incentive to lessen the environmental impact of County employees work commute and allow County employees to purchase or lease alternative fuel vehicles with participating automotive dealerships.

### **Plug-In Hybrid Electric Vehicles**

In late 2007, Plug-In Hybrid Electric Vehicle (PHEV) technology was added to our County fleet in collaboration with the Quality and Productivity Commission. ISD purchased and dedicated two Toyota Priuses to undergo retrofitting from electric/gasoline hybrid technology to PHEV technology. The Quality and Productivity Commission's grant to ISD funded the conversion cost.

This emerging technology involves adding greater battery capacity and a battery charger that can be plugged into a conventional electrical outlet from the hybrid vehicle. This allows the converted vehicle to increase the range it can travel on an electric charge, decrease its use of gasoline, and greatly improve the vehicle's overall miles per gallon (mpg) performance. These vehicles may be capable of traveling distances of up to 35 miles on battery charge alone, during which no gasoline is used.

It is purported that PHEVs are capable of achieving 100 mpg at low speeds (less than 55 miles per hour) and with mild acceleration. Our preliminary test group and results appear typically somewhat lower than anticipated. Statistics and comments are as follows:

- Fuel economy in excess of 100 MPG was only achieved 1% of the time for brief periods of driving.
- Achieved 60 MPG or greater 16.5% of the time driven, exceeding average Prius hybrid fuel economy calculated by the EPA of 46 MPG.
- Overall average of 47 MPG, which is comparable to the fuel economy calculated by the EPA.

Test results are believed to be lower than expected due to the following factors:

- 1) A PHEV needs to be plugged in nightly to gain significantly more usage of the electric power mode. We have confirmed our test groups did not routinely plug in the vehicles.
- 2) Test groups drove vehicles more frequently on longer distance, higher speed freeway trips rather than lower speeds and city driving.



ISD has educated the test groups on the necessity of nightly charging of the PHEV's and plans to continue our testing and include other test scenarios for Phase II of our PHEV testing. The results will be reported, and another cost/benefit analysis will be prepared at that time.

Our cost/benefit analysis determined that it is not cost effective to convert existing Priuses to plug-in technology. The payback period of the investment well exceeds the useful life of the vehicle at this time. The current cost of the conversion would need to be reduced to \$3,000 and the average MPG would need to increase to 80 MPG in order for the PHEV to become economically viable.

### **ISD Flexible Fuel Vehicles Initiative**

Flexible Fuel Vehicles (FFVs) are capable of running on conventional gasoline or E85 ethanol. Ethanol is a renewable fuel produced in the United States from grain such as corn, barley, wheat and biomass. Future technological advances in the production of ethanol from biomass resources, such as switchgrass, should provide for an even greater reduction in greenhouse gases over the cultivation and production process. E85 fuel consists of 85% ethanol and 15% gasoline. This alternate fuel burns cleaner than gasoline, helps reduce air pollution, and reduces the consumption of petroleum. The drawbacks to E85 are that it can be more expensive and contain less energy than gasoline.

We are continuing our efforts to convert one of our gasoline fueling stations to an E85 fueling station at our Eastern Avenue complex. As reported in the Los Angeles Times recently, there are currently only three public E85 stations in California, with one of the three (Brentwood) in Los Angeles County. It is still a priority to have an E85 fueling site at our Eastern Avenue Complex to provide a convenient dispensing station for our Flex Fuel vehicles that are currently in the County's fleet.

Grant funding for the conversion of the fueling station has been obtained from the Quality and Productivity Commission and now the California Air Resources Board.

ISD is currently awaiting approval from State Fire Marshal and State Water Board to proceed with our fuel site conversion as required by the California Air Resources Board and the South Coast Air Quality Management District.

### **New Regulation for Diesel Vehicles**

Although diesel engines provide efficiency and fuel economy for heavy duty vehicle uses, these engines are a source of particulate matter (a toxic air contaminant) and gaseous pollutants such as unburned hydrocarbons, nitrogen oxides, and carbon monoxide. On January 3, 2007 a new regulation (California Code of Regulations, Title 13, Section 2022) went into effect requiring diesel powered vehicles belonging to government and utility agencies to have particulate filters installed, be re-powered with



engines using the best available technology currently available, or to be disposed. This regulation requires implementation on a progressive annual scale through 2011.

ISD has continued working with County departments to evaluate the vehicles and determine the best course of action based on department usage. ISD-managed diesel vehicles are expected to be in compliance well within the required compliance timeframes detailed below along with compliance status.

GROUP	ENGINE MODEL YEARS	PERCENTAGE OF GROUP TO USE BEST AVAILABLE TECHNOLOGY	COMPLIANCE DEADLINE: DECEMBER 31 <sup>ST</sup> OF:	Compliance Status as of 12-31-2007
1	1960-1987	20% 60% 100%	2007 2009 2011	38%
2	1988-2002	20% 60% 100%	2007 2009 2011	58%
3	2003-2006 (Includes dual-fuel and bi-fuel engines)	50% 100%	2009 2010	17%

### **Alternate Fuel Vehicle Endeavors**

In support of Governor Schwarzenegger's greenhouse gas emission reduction target of 80 percent below 1990 levels by 2050, ISD continues to explore alternate fuel vehicles, pilot new technology, educate County departments, and recommend amendments to the Clean Fuels Program Policy as necessary. Efforts made in 2007 included:

Alternate Fuel	Actions	Comments/ Concerns
Compressed Natural Gas - CNG	On September 25, 2007, Board motion approved to:  1) Examine opportunities for expanded use of CNG vehicles in County operations with special emphasis on buses, trucks, and waste collection vehicles.  2) Pursue agreement with MTA to allow refueling of County CNG vehicles at MTA fueling sites.	ISD continuing to work with County departments on additional uses for CNG and MTA agreement is in progress.
Hydrogen	ISD met with and confirmed interest in hydrogen fuel cell powered vehicles with both	County was not named as participant in test group to date. Plans for a hydrogen

Alternate Fuel	Actions	Comments/ Concerns
	General Motors and Honda during their test periods.	fuel site at Cal State University at Los Angeles were cancelled due to funding shortages.
Propane - LPG	Provided short term usage of a demonstration vehicle for medium size truck application.	Truck options and power appear to be promising. Requires installation of propane fuel site. Examining potential costs models and funding options to make this economically feasible for the County.

Additionally, ISD management and staff continue to network with County departments and other government agencies on environmental vehicle initiatives and attend seminars and expositions such as the October 2007 Government Expo on Alternate Fuel Vehicles.

Please feel free to contact me or your staff may contact David Yamashita, General Manager, Purchasing and Contract Services at (323) 267-2109 or via e-mail at [dyamashita@isd.lacounty.gov](mailto:dyamashita@isd.lacounty.gov).

DL:DY:lc

#### Attachments

c: Department Heads  
ISD Board Deputies  
Administrative Deputies  
Vehicle Coordinators



# Fleet Composition by Department

Attachment I

Department	TOTAL	Gas	Diesel	CNG	CNG/ Gas	Methanol/ Gasoline	Ethanol/ Gasoline	Propane/ Gas	Propane	Electric	Hybrid Gasoline	Total AFV	AFV as % of TOTAL	Emission Certifications*	% of Fleet with Emission Certifications
AgComm/Weights & Measures	294	280	12								2	2	0.7%	46	15.6%
Alternate Public Defender	5	4									1	1	20.0%	1	20.0%
Animal Care & Control	72	72										-	0.0%	1	1.4%
Assessor	8	7									1	1	12.5%	4	50.0%
Auditor-Controller	4	3									1	1	25.0%	1	25.0%
Beaches & Harbors	111	102	9									-	0.0%	17	15.3%
Board of Supervisors	73	54									19	19	26.0%	20	27.4%
Chief Executive Office	17	16	1									-	0.0%	1	5.9%
Chief Information Officer	-											-	0.0%	-	0.0%
Child Support Services	13	13										-	0.0%	4	30.8%
Children and Family Services	74	74										-	0.0%	13	17.6%
Community and Senior Services	24	24										-	0.0%	14	58.3%
County Counsel	1	1										-	0.0%	-	0.0%
District Attorney	264	244		1			14				5	20	7.6%	72	27.3%
Health Services	371	281	66	20	1						3	24	6.5%	3	0.8%
Human Relations Commission	1										1	1	100.0%	-	0.0%
Human Resources	2	2										-	0.0%	-	0.0%
ISD	802	701	13	23	7	4	22	1			31	88	11.0%	479	59.7%
Medical Examiner-Coroner	50	44	2				4					4	8.0%	-	0.0%
Mental Health Services	234	155									79	79	33.8%	81	34.6%
Military & Veteran Affairs	1	1										-	0.0%	-	0.0%
Museum of Natural History	15	13	2									-	0.0%	-	0.0%
Office of Public Safety	268	260	7								1	1	0.4%	9	3.4%
Parks & Recreation	554	510	24	1	1				2		16	20	3.6%	183	33.0%
Probation	331	294	5								32	32	9.7%	116	35.0%
Public Defender	5	5										-	0.0%	2	40.0%
Public Health	130	119	1	6	1	1					2	10	7.7%	42	32.3%
Public Library	57	49	2	3	1		1				1	6	10.5%	6	10.5%
Public Social Services	17	14	3									-	0.0%	6	35.3%
Registrar Recorder/County Clerk	53	47	3								3	3	5.7%	23	43.4%
Treasurer-Tax Collector	8	7									1	1	12.5%	-	0.0%
TOTAL POWERED VEHICLES	3,859	3,396	150	54	11	5	41	1	2	-	199	313	8.1%	1,144	29.6%
PERCENT TOTAL VEHICLES		88.0%	3.9%	1.4%	0.3%	0.1%	1.1%	0.0%	0.1%	0.0%	5.2%	8.1%			

\*Vehicles certified to meet or exceed the Low Emission Vehicle standard as established by the California Air Resources Board



List does not include non-powered vehicles such as trailers, beach rakes, etc.

2/27/2008